

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**FIELD WASTE STACKING AREA**

(Each)

**CODE 749**

**DEFINITION**

Field Waste Stacking Area is the temporary outside storage of solid or semi-solid animal manure at predetermined remote locations.

**PURPOSE**

Field Waste Stacking Area is used to temporarily store manure in remote locations in an environmentally safe and cost effective manner when field application and storage of waste is not possible.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies where a Comprehensive Nutrient Management Plan (CNMP) has been developed and where temporary storage of manure is required because:

- Land area is limited and split applications of manure are required for proper nutrient management and water quality protection.
- Land area available for waste application is not available due to the crops rotation.
- No other facility is available to store manure during the period from December 15 to April 1, when manure can not be applied to fields in accordance to Vermont Accepted Agricultural Practices.

**CRITERIA**

The following are design criteria for Field Waste Stacking Areas (pads) and adjoining filter/buffer areas:

1. Field Waste Stacking Areas must be planned, located, and installed to meet all federal, state, and local laws and regulations. These include Vermont Accepted Agricultural Practice and Large Farm Operation Regulations.
2. To minimize the potential for contamination of streams, field waste stacking areas should be located outside of floodplains. However, if site restrictions require location within a floodplain, they shall be protected from inundation or damage from a 25-year flood event, or larger if required by laws, rules, and regulations.
3. Field Waste Stacking Areas shall be located so the potential impacts from accidental release and liner failure are minimized; and separation distances are such that prevailing winds and landscape elements such as building arrangement, landforms, and vegetation minimize odors and protect aesthetic values.
4. The Field Waste Stacking Areas shall be located a minimum of 300 feet up gradient and/or 100 feet down gradient from all wells, springs and other potable water sources. These distances shall be greater in environmentally sensitive locations such as well head protection areas.
5. Field Waste Stacking is not intended for freestall dairy operations, unless manure solids are separated mechanically. Manure should be no less than 20% solid content and be able to stack at least four feet high.

6. The Field Waste Stacking Area shall be located in areas to minimize the risk of surface and ground water contamination. The general landscape shall be convex in shape and higher in position, such as a rise or knoll.
7. To the fullest extent possible, all clean or unpolluted water shall be excluded from the facility and loading area.
8. Proposed sites for Field Waste Stacking must be approved and/or modified by a Soil Scientist or NRCS employee with the appropriate engineering job approval.
9. The Field Waste Stacking Area site shall not exceed any of the site criteria limits shown in table 1 unless modifications are made.
10. Geology Technical Note 5, SEEPAGE: A System for Early Evaluation of the Pollution Potential of Agricultural Groundwater Environments (12/89) may be used to determine the sensitivity or the pollution potential of a site. Sites scoring "high" or "very high" are not recommended for Field Waste Stacking Areas.
11. Soils that do not meet the criteria in Table 1 must be modified or an alternate site shall be found that meets these criteria. Waste field stacking areas shall never be located in areas where bedrock is less than 30 inches nor the seasonal high water table is less than 12 inches below the natural soil surface. Some possible modifications to stacking facility sites include, but are not limited to:
  - Increase setback distances from the resource concerns shown in Table 2. (This will primarily be used to deal with water table and slope limitations).
  - Cover the stack.
  - Install a berm around the stack.
  - Install surface runoff diversions.
  - Place additional soil to increase the separation distance from bedrock or seasonal water table.
  - Install a tile drain to lower the seasonal high water table.
  - Install a liner.

**Table 1 – Site Criteria for Field Waste Stacking Areas and adjoining Filter Area**

Property	Limits	Units
Maximum Slope	8	Percent
Maximum Flood Frequency	1 in 25	Years
Minimum Depth to Bedrock	36	Inches
Minimum Depth to Seasonal High Water Table	18	Inches
Maximum Permeability (Least Permeable Horizon Over 12 Inches Thick)	2	Inches/Hour

12. Planning for the location of the Stacking Area shall consider distances from resource concerns to minimize surface and subsurface water pollution and odor problems (minimum distances are shown in Table 2). Local, state and Federal regulations may require greater distances. Deviation from these distance guidelines requires documented planning rational that locating facilities closer to the resource concerns will not cause surface and subsurface water pollution or odor problems. Field Waste Stacking Areas shall also be located where access is practicable during poor weather conditions such as excessive snow or ice and muddy ground.
13. A soils investigation shall be made of the proposed stacking site and adjoining filter/buffer area. As a minimum, the underlying soil shall be investigated to an adequate depth, no less than four feet, to determine if the site meets the requirements set forth in Table 1. A soil auger is adequate to perform soil investigation for a stacking site. The investigation shall be documented on the "Vermont Manure Stack Soil/Site Evaluation Form".

**Table 2 - Minimum Distance from Potential Stacking Area to Resource Concerns**

<b>Resource Concern</b>	<b>Minimum Downslope Distance From SA(a)</b>	<b>Minimum Upslope Distance From SA(a)</b>
Public Water Supply(b)	1000 feet	1000 feet
Neighboring Dwelling or Water Supply	500 feet	500 feet
Adjoining Property Line	200 feet	100 feet
On-Farm Well or Spring	300 feet	100 feet
Lake/Pond/River/Water Body	300 feet	100 feet
Diversion(c)	100 feet	25 feet
Gully/Swale/Ravine(c)	100 feet	25 feet
(a) SA – Stacking Area, Distances are Horizontal (b) Contact VT Dept. of ANR, Water Supply Division (c) Sensitivity of waterway or diversion outlet shall be considered.		

14. If the facility poses a health or safety hazard, fencing, meeting standard 382 - Fence, shall be installed.

and shall describe the requirements for applying the practice to achieve its intended use.

15. The Comprehensive Nutrient Management Plan (CNMP) shall show the locations of all waste field stacking areas and access routes to them. If sufficient sites exist, rotate sites yearly to decrease potential of build up of nutrients in the field stacking areas.

16. Manure shall be removed, at least, yearly from the stacking areas in accordance to the Nutrient Management (590) standard.

### **OPERATION AND MAINTENANCE**

An operation and maintenance (O&M) plan shall be prepared for the Field Waste Stacking Area and any other associated conservation practices. Maintenance needs are to be discussed with the landowner or operator who is responsible for maintaining the practices installed with NRCS assistance. Any hazards must be brought to the attention of the responsible person. Prior to construction, sufficient copies of the O&M plan shall be provided to the owner/operator, designer, and approving agencies. The owner shall sign the O&M plan to indicate an understanding of the requirements and a commitment to operate and maintain the area as specified.

An operation and maintenance (O&M) plan shall be developed that is consistent with the purposes of the practice; its intended life, safety requirements, and the criteria for its design. The O&M plan shall also be consistent with the Comprehensive Nutrient Management Plan (CMNP).

The plan shall contain the operational requirement that waste shall be removed from the area and utilized at locations, times, rates, and volume in accordance with the CNMP.

### **CONSIDERATIONS**

Field waste stacking areas should be located in remote locations close to or in fields that the manure will be applied and access is practicable.

Consider covering piles with plastic to reduce the amount of rainfall that enters the manure.

Visual impacts of field waste stacking areas should be considered.

This practice may adversely affect cultural resources. Planning, installation and maintenance must comply with GM 420, Part 401.

### **PLANS AND SPECIFICATIONS**

Plans and specifications shall be prepared in accordance with the criteria of this standard



## VERMONT MANURE STACKING SOIL/SITE EVALUATION FORM

STAFF PERSON(S): _____			DATE: _____			
LANDOWNER/USER: _____			TOWN/COUNTY: _____			
FIELD IDENTIFICATION: _____			BASE MAP/APPROX. SCALE: _____			
<b>MANURE TYPE:</b> DAIRY                                      POULTRY                                      OTHER _____						
<b><u>SOIL/SITE EVALUATION</u></b>						
SOIL SURVEY FIELD SHEET: _____						
<b>SOIL PROPERTY</b>	<b>VT NRCS STANDARD</b>	<b>STOP 1</b>	<b>STOP 2</b>	<b>STOP 3</b>	<b>STOP 4</b>	
DEPTH TO SEASONAL HIGH WATER TABLE	18 INCHES 12" W/ MODIFICATION					
DEPTH TO BEDROCK	36 INCHES 30" W/ MODIFICATION					
FIELD SLOPE	8 PERCENT MAXIMUM					
PERMEABILITY (LEAST PERMEABLE HORIZON OVER 12 INCHES THICK)	2 INCHES/HOUR					
FLOOD FREQUENCY	NOT IN 25 YEAR FLOODPLAIN					
<b><u>SETBACKS FROM RESOURCE CONCERNS</u></b>						
<b>RESOURCE CONCERN</b>	<b>DOWN SLOPE</b>	<b>UP SLOPE</b>	<b>STOP 1</b>	<b>STOP 2</b>	<b>STOP 3</b>	<b>STOP 4</b>
PUBLIC WATER SUPPLY	1000 FEET	1000 FEET				
NEIGHBORING DWELLING OR WATER SUPPLY	500 FEET	500 FEET				
ADJOINING PROPERTY LINE	200 FEET	100 FEET				
ON-FARM WELL/SPRING	300 FEET	100 FEET				
LAKE/POND/RIVER/ WATER BODY	300 FEET	100 FEET				
DIVERSION	100 FEET	25 FEET				
GULLY/SWALE/RAVINE	100 FEET	25 FEET				
MEETS ALL REQUIREMENTS ABOVE?    YES    NO		MODIFICATIONS REQUIRED?                      YES                      NO				
APPROVED?                      YES    NO		APPROVED WITH MODIFICATIONS?    YES                      NO				
<b><u>MODIFICATIONS REQUIRED</u></b>						
SETBACKS FROM RESOURCE CONCERNS THAT FAR EXCEED MINIMUM DISTANCES COMPENSATE FOR THE SOIL/SITE LIMITATIONS:                      YES                      NO						
DOCUMENT DISTANCES:						
OTHER MODIFICATIONS REQUIRED:						
NOTES:						